

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Applicant's remark, filed on 03/24/2008, with respect to the rejection(s) of claim(s) 1, 3-6, and 8-12 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over Szabo et al. (U.S. Patent No.: 3,832,646) in view of Pietrowicz (U.S. Patent No.: 6,628,779).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szabo et al. (U.S. Patent No.: 3,832,646, hereinafter, "Szabo") in view of Pietrowicz (U.S. Patent No.: 6,628,779).

Regarding claim 1, Szabo teaches a system comprising (see figure 4):

first and second signal lines connected to corresponding first and second inputs of a differential amplifier (see figure 4, input V1, input V2, amplifier 20, col.6, ln.33-67); and

a means for adjusting an impedance connected between at least one of the signal lines and a ground point (see figure 4, capacitor C2 connect to V1 input for adjusting the impedance, col.6, ln.33-67), wherein the means for adjusting improves rejection of common mode noise by matching the impedance of the first input signal line with the second input signal line (see figure 4, col.6, ln.33-67, it is clearly seen that the capacitor C2 is adjusting the first and second input impedance of C1 and C2).

It should be noticed that Szabo fails to teach the system for improve the signal to noise ratio. However, Pietrowicz teaches the system for improve the signal to noise ratio (see col.10, ln.42-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Pietrowicz into view of Szabo in order to reduce noise in the system and provide a better performance.

Regarding claim 5, Szabo further teaches a means for adjusting an impedance connected to each of said first and second signal lines (see figure 4, C2, R12b, col.6, ln.45-55).

4. Claims 6, and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szabo et al. (U.S. Patent No.: 3,832,646, hereinafter, "Szabo") in view of Pietrowicz (U.S. Patent No.: 6,628,779) and further in view of Cho et al. (U.S. Patent No.: 5,734,730, hereinafter, "Cho").

Regarding claims 6 and 10, Szabo teaches a method and a system comprising (see figure 4):

first and second signal lines connected to corresponding first and second inputs of a differential amplifier (see figure 4, input V1, input V2, amplifier 20, col.6, ln.33-67); and to match the impedance of the first and second signal lines to reject common mode noise (see figure 4, col.6, ln.33-67, it is clearly seen that the capacitor C2 is adjusting the first and second input impedance of C1 and C2).

It should be noticed that Szabo fails to teach the system for improve the signal to noise ratio. However, Pietrowicz teaches the system for improve the signal to noise ratio (see col.10, ln.42-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Pietrowicz into view of Szabo in order to reduce noise in the system and provide a better performance.

Szabo and Pietrowicz, in combination, fails to teach a plurality of impedance members selectively connected between at least one of the signal lines and a ground point by a plurality of switches; and a controller coupled to the switches, the controller selectively connecting the impedance members to the at least one of the signal lines. However, Cho teaches a plurality of impedance members selectively connected

between at least one of the signal lines and a ground point by a plurality of switches; and a controller coupled to the switches, the controller selectively connecting the impedance members to the at least one of the signal lines (see figure 4, plurality of impedances Z1-Zn, SW1-SWn, controller 30, col.3, ln.35-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Cho into view of Szabo and Pietrowicz in order to improve the signal to noise ratio and minimize echo signal in the communication system.

Regarding claims 8 and 12, Szabo further teaches the system and method for improving the signal-to-noise ratio wherein at least some of the impedance elements are capacitors (see figure 4, C2, col.6, ln.50-55).

Regarding claims 9 and 11, Cho further teaches the system and method for improving the signal-to-noise ratio further comprising a plurality of impedance members selectively connected to each of the signal lines with a plurality of switches (see figure 4, plurality of impedances Z1-Zn, SW1-SWn, controller 30, col.3, ln.35-57).

5. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szabo et al. (U.S. Patent No.: 3,832,646, hereinafter, "Szabo") in view of Pietrowicz (U.S. Patent No.: 6,628,779) as applied to claim 1 above, and further in view of Cho et al. (U.S. Patent No.: 5,734,730, hereinafter, "Cho").

Regarding claim 3, Szabo and Pietrowicz, in combination, fails to teach a plurality of impedance elements selectively connected to plurality of switch members.

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However, Cho teaches a plurality of impedance elements selectively connected to plurality of switch members (see figure 4, plurality of impedances Z1-Zn, SW1-SWn, controller 30, col.3, ln.35-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Cho into view of Szabo and Pietrowicz in order to improve the signal to noise ratio and minimize echo signal in the communication system.

Regarding claim 4, Szabo further teaches at least some of the impedance elements are capacitors (see figure 4, C2, col.6, ln.50-55).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Pham whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/TUAN A PHAM/
Examiner, Art Unit 2618

Tuan Pham